

CLAIMS

What is claimed is:

- 1 1. A method of communicating data between a Base Station System
2 (BSS) and a Serving GPRS Support Node (SGSN), the method of
3 communicating comprising the steps of:
 - 4 providing protocol data and associated functions, including
5 encapsulating a data packet with a User Datagram Protocol (UDP) and a
6 Internet Protocol (IP), wherein the UDP comprises a UDP port associated with
7 a Network Service Virtual Connection (NS-VC) and, the IP provides an IP
8 address associated with a Network Service Entity (NSE); and
9 transmitting the data packet provided with the protocol data.
 - 1 2. The method of communicating as recited in claim 1, wherein the UDP
2 port is identified as either for real-time or non-real time services.
 - 1 3. The method of communicating as recited in claim 1, wherein the data
2 packet is associated with a Temporary Logical Link Identifier (TLLI) and a
3 Network Service Access Point Identifier (NSAPI).
 - 1 4. The method of communicating as recited in claim 3 further comprising
2 the step of:
 - 3 providing a BSSGP Virtual Connection Identifier (BVCI), a Network
4 Service Entity Identifier (NSEI) and a Link Select Parameter
5 (LSP), the BVCI, NSEI and LSP associated with the TLLI and
6 NSAPI, the BVCI identifying a BVC, the NSEI identifying the
7 NSE, the NS-VC identified by the BVCI and the NSEI, the LSP
8 identifying a Network Service Virtual Link (NS-VL) associated
9 with the NS-VC.

1 5. The method of communicating data as recited in claim 1, wherein the
2 data packet comprises a Sub-network Dependent Convergence Protocol
3 (SNDCP).

1 6. The method of communicating data as recited in claim 5, wherein the
2 data packet further comprise a Logical Link Control (LLC).

1 7. The method of communicating data as recited in claim 6, wherein the
2 protocol data and associated functions further comprise:

3 a Base Station System GPRS Protocol (BSSGP);

4 a network service control;

5 a data link layer; and

6 a physical link layer.

1 8. The method of communicating data as recited in claim 7 further
2 comprising the step of receiving the data packet provided with the protocol
3 data.

1 9. The method of communicating data as recited in claim 8 further
2 comprising the step of removing the protocol data and associated functions
3 and the LLC and the SNDCP.

1 10. The method of communicating data as recited in claim 1, wherein the
2 protocol data and associated functions further comprise:

3 a Sub-network Dependent Convergence Protocol (SNDCP)

4 a Logical Link Control (LLC);

5 a Base Station System GPRS Protocol (BSSGP);

6 a network service control;

7 a data link layer; and

8 a physical link layer.

1 11. The method of communicating data as recited in claim 10, wherein the
2 SNDCP provides RTP/UDP/IP header compression and stripping.

1 12. The method of communicating data as recited in claim 10 further
2 comprising the step of receiving the data packet provided with the protocol
3 data.

1 13. The method of communicating data as recited in claim 12 further
2 comprising the step of:

3 removing the physical link layer, the data link layer, the IP, the UDP,
4 the network service control and the BSSGP.

1 14. A system for communicating data between a mobile communications
2 architecture and a GPRS architecture, the system comprising:

3 a Base Station System (BSS) having a first BSSGP Virtual
4 Connection (BVC) and a first at least one Network Service
5 Virtual Connection (NS-VC) associated with the first BVC;

6 a Serving GPRS Support Node (SGSN) coupled to the BSS, the
7 SGSN having a second BVC, the SGSN having a second at
8 least one NS-VC associated with the second BVC, wherein the
9 BSS transmits data between the first BVC and the second BVC
10 over the first at least one NS-VC, the data encapsulated with
11 protocol data and associated functions, the protocol data and
12 associated functions including a UDP and IP, the UDP provides
13 a UDP port associated with a NS-VC of the first and second at
14 least one NS-VC, the IP provides an IP address identifying a
15 Network Service Entity (NSE) associated with the first and
16 second BVC, the SGSN receives the data over the second at
17 least one NS-VC.

1 15. The system as recited in claim 14, wherein the UDP port associated
2 with the NS-VC further comprises the UDP ports identified as either for real
3 time or non-real time services.

1 16. The system as recited in claim 14, where the data comprises
2 information encapsulated with a Sub-network Dependent Convergence
3 Protocol (SNDP) and a Logical Link Control (LLC).

1 17. The system as recited in claim 14, wherein the protocol data and
2 associated functions further comprises;

3 a Base Station System GPRS Protocol (BSSGP);

4 a network service control;

5 a data link layer; and

6 a physical link layer.

1 18. The system as recited in claim 17, wherein the SGSN upon receiving
2 the data encapsulated with protocol data and associated functions removes
3 the encapsulated protocol data and associated functions and the SNDP and
4 the LLC.

1 19. A system for communicating data between a mobile communications
2 architecture and a GPRS architecture, the system comprising:

3 a Base Station System (BSS) having a first BSSGP Virtual
4 Connection (BVC) and a first at least one Network Service
5 Virtual Connection (NS-VC) associated with the BVC;

6 a Serving GPRS Support Node (SGSN) coupled to the BSS, the
7 SGSN having a second BVC, the SGSN having a second at
8 least one NS-VC associated with the second BVC, wherein the
9 SGSN transmits data between the first BVC and the second
10 BVC over the second at least one NS-VC, the data

11 encapsulated with protocol data and associated functions, the
12 protocol data and associated functions include a UDP and IP,
13 the UDP provides a UDP port associated with a NS-VC of the
14 first and second at least one NS-VC, the IP provides an IP
15 address identifying a Network Service Entity (NSE) associated
16 with the first and second BVC, and the BSS receives the data
17 over the first NS-VC.

1 20. The system as recited in claim 19, wherein the UDP port associated
2 with the NS-VC further comprises the UDP ports identified as either for real
3 time or non-real time services.

1 21. The system as recited in claim 19, wherein the protocol data and
2 associated functions further comprises:

3 a Sub-network Dependent Convergence Protocol (SNDTCP);

4 a Logical Link Control (LLC);

5 a Base Station System GPRS Protocol (BSSGP);

6 a network service control;

7 a data link layer; and

8 a physical link layer.

1 22. The system as recited in claim 21, wherein the SNDTCP provides
2 RTP/UDP/IP header compression and stripping.

1 23. The system as recited in claim 21, wherein the BSS upon receiving the
2 data encapsulated with protocol data and associated functions removes the
3 physical link layer, the data link layer, the IP, the UDP, the network service
4 control and the BSSGP.